Paradoxically, this current relatively low state of uranium production and reserves coincides at this Conference with a renewed optimism on the early widespread uses of nuclear energy for civilian purposes. Production will continue to decline, but rapidly increasing uranium requirements are now predicted for the near future. The increasing requirements of the 1970's, following an extended period of decline in uranium production and exploration, may tax our abilities to find, develop and produce sufficient uranium.

Worldwide projections of requirements have not been developed in detail beyond 1980, but cumulative U. S. requirements may vary from 600 000 to one million tons or more by the year 2000, compared to current low-cost reserves of about 160 000 tons, and a possible, but uncertain, additional 400 000 tons in the western uranium mining areas which may exist in comparable deposits. Information on higher-cost material that might be available at prices up to $20 per pound is meager, but the quantities available may fall considerably short of doubling low-cost reserves.

Utilization of thorium in advanced converter and thermal breeder reactors may slow the drain on uranium resources when these systems start becoming operational. The U. S. is well endowed in thorium resources available at low cost. Advances in hydrometallurgical processes may delay the day when high-cost uranium or thorium is required or reduce the estimated cost of recovery from very low grade sources both directly and by economic recovery of by-products.

The geographical location of nuclear fuel resources is of little economic importance because of their high energy content. The availability of nuclear fuels may be therefore considered on a worldwide basis which should prolong their availability at reasonable costs.